Volunteer Firemen

FEBRUARY 1944

NATIONAL FIRE PROTECTION ASSOCIATION INTERNATIONAL
60 Batterymarch Street Boston 10, Massachusetts

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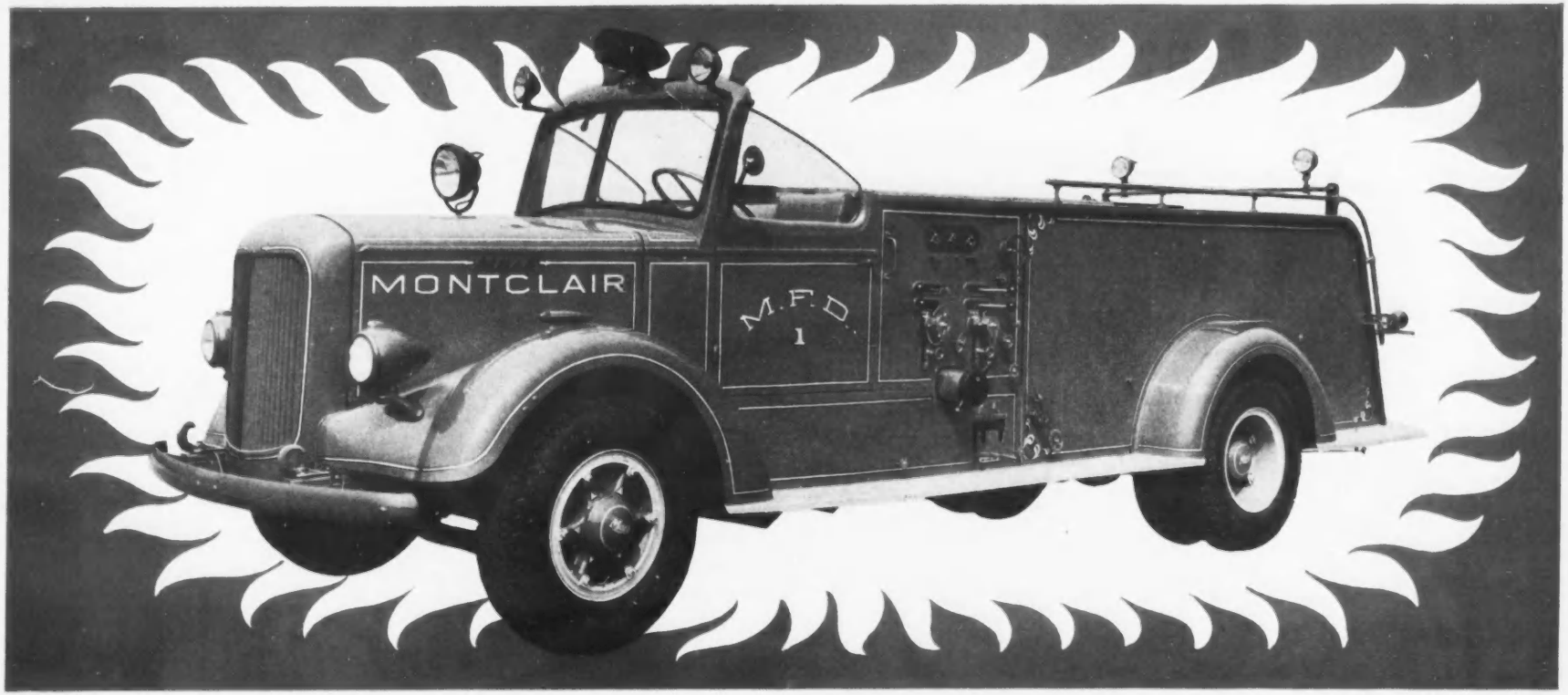

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ARMY E NAVY

BUY WAR BONDS

IF YOU'VE GOT A MACK, YOU'RE LUCKY... IF YOU PLAN TO GET ONE, YOU'RE WISE!

Volunteer Firemen

THE cover picture this month (*Acme*) shows the Christmas morning conflagration at Wildwood, N. J. See page 18 for an account of this fire.

WHEN you look along Main Street of your town, what do you see? Of course, you see stores, churches, various business blocks, perhaps some dwelling or apartment structures. Many of the older store buildings, no doubt, have modern fronts that have been added to attract the eye. Most of the larger buildings undoubtedly have brick walls while some of the older structures are entirely of wood frame construction. Did you ever stop to consider the many different fire-fighting problems that may confront the department within a few hundred feet of any busy street intersection in your community?

To the average citizen the business district consists merely of store and office buildings while the fireman recognizes each building as an individual problem. He knows that some buildings are very old, others are quite new. Methods of construction and building materials have varied considerably where buildings side by side differ in age by perhaps fifty years or more. In many communities it will be found that buildings twenty-five or thirty years old were built before a modern building code was adopted.

It might be of considerable help to firemen if the old practice of having a corner stone bearing the date of erection, and including the date of major alterations, was followed for all buildings larger than dwellings. In a very small community it may be possible to be familiar with the age of every building, but many buildings have been so disguised by fancy fronts that it may not be evident that a building in question was erected before the days when building rules required fire-stopping of floor and wall spaces, and before there were rules specifying an adequate mortar for brickwork, or was built with wooden floor joists bonded to the wall merely by unprotected iron ties that could quickly heat and fail in even a relatively minor fire.

ANOTHER structural fault that is not readily apparent to a person who is not in the habit of scrutinizing building details with relation to the possible behavior of a fire, is the danger to fire fighters of improperly bonded brick veneered walls. Many persons carelessly assume when they see a brick wall that it is a bearing wall of adequate thickness to support floor and roof joists. They assume that it is a wall that can resist considerable fire. Unfortunately, many brick walls consist of but four inches of brick veneer erected for the purpose of decorating the exterior of frame buildings.

We are not prepared to argue that brick veneer may not have a legitimate place in providing a small amount of ornamental brick work for third-class structures. However, intimate experience with the way it behaves at fires causes concern for the manner in which brick veneer walls may fail without warning and sweep outward from a burning building like the breaking of a huge wave. One moment the wall is there with the appearance of a sturdy brick wall. The next moment there is a mountain of smoking brick in which all too often fire fighters and their equipment have been trapped.

Thus it might be said that knowledge of the structural conditions in the community is one of the most valuable attainments any fire fighter can have. With such a knowledge he will have confidence that he can safely maintain a given position that might otherwise appear untenable, while on the other hand he will know that certain structures give a false sense of security and except for livesaving purposes, outside fire fighting may have to be resorted in a major fire.

THE annual Fire Department Instructors' Conference held at fire department headquarters, Memphis, Tennessee, January 11th-14th, was the largest gathering in the sixteen-year history of that unique enterprise. The conference, sponsored jointly by the Fire Prevention Department of the Western Actuarial Bureau and the Memphis Fire Department, was attended by 457 instructors and other fire school officials from points as widely separated as Maine and California, Florida and Minnesota, and from Canada. Richard E. Vernor, Manager of the Fire Prevention Department of the Western Actuarial Bureau, presided at all sessions.

All those who come in contact with the F.D.I.C. for the first time are impressed by two facts. One is the serious and constant attention given by those present to the subjects presented at the meetings. The other is the unbounded hospitality extended by Chief Connie O'Sullivan and every other member of the Memphis Fire Department.

The publishers of VOLUNTEER FIREMEN *are making every effort to conserve paper in compliance with the limitation orders of the War Production Board.*

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THE VOLUNTEER FIREMAN

IF YOU'VE GOT A MACK, YOU'RE LUCKY . . . IF YOU PLAN TO GET ONE, YOU'RE WISE!
EMPIRE STATE BUILDING, NEW YORK, N. Y.

Britain's National Fire Service

By Leading Firewoman Hazel Cohen, N.F.S.

THE first Fire Brigade of England was formed during the reign of Charles II, in 1666, to fight the Great Fire of London. Its members did not dream that it would form the basis of a national fire service, formed by the Government of Britain in 1941, after the second Great Fire of London.

From the seventeenth century onwards Britain's great cities maintained the tradition of fire fighting. A great many of the city Brigades (under local authorities) were composed of regulars — that is, men fully employed in the Fire Brigade. Oddly enough, a large majority of the men had previously served in the Royal Navy.

In many smaller towns and nearly all villages, however, the fire brigades were composed of volunteers. As each brigade was under the government of local authorities, often each had different rules and methods of fire fighting, to say nothing of equipment.

In 1938 when war seemed immanent men and women auxiliaries were enrolled. They trained in their spare time and were ready for mobilization when war broke out. Never before had women been admitted; the London Fire Brigade was the first to institute this.

In the Blitz of 1940–41, when fire-bombs and high explosives came down on town and village, it was found necessary to have a mobile Fire Service, so that if one part of England received a particularly heavy raid, fire appliances could be rushed there from elsewhere. Difficulties, however, arose because of the difference in method and equipment of the various brigades.

So in August, 1941, the National Fire Service of Britain was formed, under the control of the Home Office. The Home Secretary, Herbert Morrison, said:

"On August 18th, the 1,400 local authority (city or town—ED.) fire brigades in England, Wales and Scotland were transferred to the control and service of the State (the National Government—ED) and reconstituted as 34 Fire Forces. . . . Under the new system, if a place in a Fire Force area is attacked, the Force Commander will have under his direct command all the men and pumps in the whole of his area; he will order them in himself and operate then under his own control, through his own officers."

Men and women, full and part-time, were frozen in. That is, like members of the Armed Forces, they were subject to service law and set hours, and were unable to leave the employment of the National Fire Service, now recognized as the fourth Crown Service of the country (Army, Royal Navy and Royal Air Force being the other three). In extreme cases of sickness members can be invalided out, or permitted to leave on special compassionate grounds (special leaves—ED.).

Full-time members of the National Fire Service work on a basis of 48 hours, on, 24 off — that is, 48 hours living and working at the station, then 24 hours leave. Occasional leave of four days occurs generally every six weeks.

The nationalization of the fire brigades increased the efficiency of fire fighting and promoted "mutual aid." England, Scotland and Wales have been divided, for the purposes of Civil Defense, into twelve regions, each with a Regional Commissioner. In time of emergency, each Region can be self-contained — with its own food stores, civil defense, armed defense and so on. The Regional Commissioner can assume temporary complete power over the well-being, safety and defense of his Region.

The National Fire Service has the same grouping into 12 regions, with a Regional Fire Officer and Woman Regional Fire Officer in charge in each Region (these two officers are answerable to the Home Office). The heads of the National Fire Service — the Inspector-in-Chief, Commander Firebrace, and the Chief Woman Fire Officer, Mrs. Cuthbert — are attached to the Home Office.

Each Region is sub-divided into Areas, the number varying according to the size of the Region. Each Area, known by a number, is controlled by a Fire Force Commander, responsible for the fire-personnel, equipment and proper handling of the fires in his Area. The Fire Force Commander can call on his neighboring Region and Area for more appliances, should this be necessary. He usually has an Assistant Fire Force Commander on his staff. At Fire Force (as the officers and control of the Area are generally known) the woman officer is the Area Officer, responsible for the training and welfare of all women in her Area.

Women serve as drivers (not of fire appliances, but of autos, trucks, canteens and mobile kitchens) despatch riders, cooks and undertake watchroom duty. "Watchroom" consists not only of telephoning and recording messages, and mobilizing — that is, plotting the movement of appliances — but also working the Gamewell system of fire-alarms. Each sub-division station has 45–50 street fire-alarms directly connected with it, and sub-division in turn is connected with Division.

Each Area is sub-divided into Divisions, known by a letter of the alphabet. Here again the number varies. At each Divisional Headquarters, the Divisional Officer is responsible for handling the fires in his Division. The woman officer there is a Group Officer.

Part-time women take over from the whole-time women in the evenings. There are similarly part-time men who turn up regularly at the allotted stations, after their daily work, and take up duty, manning the pumps and going out in the same way as their whole-time colleagues.

The next level is Sub-Division, known by a number; usually there are from five upwards. The Officer in charge is a Column

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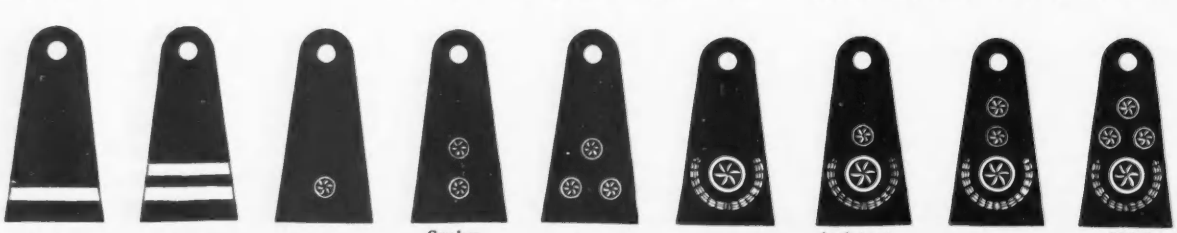
Leading-Firewoman Hazel Cohen joined the London Fire Brigade in March, 1939, and served whole-time for a year as an officer, driving and instructing. Early in 1940 she transferred to part-time duties and took up a job in a government office. Miss Cohen served in London throughout the blitz and has trained many civilian firewomen under Civil Defense regulations.



Leading Fireman | Section Leader | Company Officer | Senior Company Officer | Column Officer | Divisional Officer | Assistant Fire Force Commander | Fire Force Commander | Chief Regional Fire Officer

Officer. The woman officer is an Assistant Group Officer. The Column Officer also has at the Sub-Division a Company Officer and possibly a Section Leader and the Assistant Group Officer usually has a Leading Firewoman (the only non-commissioned rank for the women).

The smallest unit in the organization is the letter station (identified by a letter of the alphabet). A letter station may be responsible for anything from about two square miles upwards, known as the "ground." There is generally a Company Officer in charge of the 40 or so men (with perhaps four appliances) or perhaps a Section Leader, with one or two Leading Firemen.

The station is responsible for the proper handling of all fires and incidents on that ground, though, of course, the appliances are often sent to fires outside that particular district. At a letter-station, there is sometimes, not always, a Leading Firewoman, and about three women members.

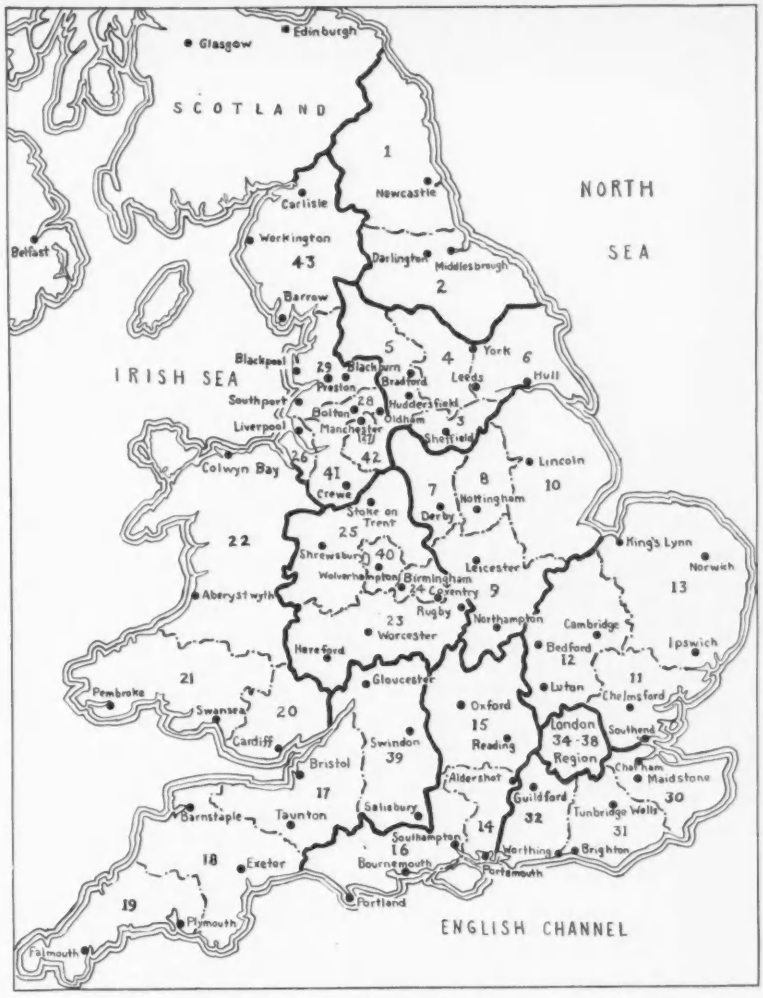
THE uniform of Britain's National Fire Service for men and women of all ranks is navy blue, with markings in red. Ranks are shown on the shoulders by red stripes and chromium impellers, and by hat markings. The impeller is part of a fire pump, and the emblem was taken in place of the "pip" which British Army officers wear.

From the top to Company Officers (men) the uniform is a navy blue double-breasted suit with patch pockets. For fire-fighting there are high-boots and serge fire-tunics. At night the shoulder tabs are white (because of the difficulty of seeing the officer during the black-out), with the rank insignia as usual. For fire-fighting purposes and also during a blitz, steel helmets replace the ordinary hats. (Steel helmets have superseded the distinctive brass helmets of pre-war days).

Firewomen and leading firewomen wear rough serge navy blue skirt (or trousers) and single-breasted coat with belt, chromium buttons, four pockets. Shirt of white or air-force blue, with tie showing. Ski-ing caps. Women officers above leading firewomen wear smooth navy blue costumes, white shirts and tie, double-crowned peak caps like men officers.

Mobilizing, or plotting, is undertaken at each station level, from letter station right up to Regional. Women play a great part in this. At a letter station, you will find the women — probably three on at a time (with or without the help of part-timers)— doing the three jobs of mobilizing and board-plotting, telephoning and message writing and ordering out of appliances.

A large plotting board is kept at each station. At the sub-divisions, there are duplicate boards for each letter station. At the Divisions, there are duplicates of the sub-division boards, at Force, duplicates of the Divisional boards and at Regional, duplicates of the Force boards. Each "level" of the Service, from letter station to Regional is both responsible for the handling of fires on its ground and answerable for its actions or requests to its immediately superior station.



The "Fire Force Areas" of the British National Fire Service. The heavier lines denote the twelve regions into which the fire forces are grouped.

For example, take letter station A4Y during a blitz. At the beginning of a raid, A4Y has four major pumps. There may be a call for four separate fires. During a blitz, the first attendance at *any* fire is one pump; a call for more pumps must come from the officer in charge of the pump when he has arrived at the scene of the fire. On four calls all four pumps would be out.

Suppose a fifth fire is reported. A4Y gets through to sub-division and requests one pump (no more than the actual number required must be requested). It is quite possible that other stations on the Sub-Divisions' ground are also requesting reinforcements. Sub-division gets on to its immediate higher level — Division — and requests the total number of reinforcements so far required for its ground.

Division may be receiving requests from its other sub-divisions for more pumps. If not, Division can call — say — on No. 2 Sub-Division to send the required number of pumps to No. 4. If Division is receiving calls from all its sub-divisions for help, it will get on to Force and apply for the total number of pumps so far requested. And so on up to Regional, who may call on other Regions for help.

For instance, if a large manufacturing town in the Midlands was being blitzed, its Region might appeal perhaps to London (assuming that London was not being raided then, too). London pumps would go north, and appliances from south England would move up into the London area.

To return to station A4Y. They have one fire not attended through lack of pumps, and they have requested one pump. They may get further calls from fresh fires, or they may get a call for more pumps from a fire already being attended. The request to Sub-Division for reinforcements is increased in proportion with the number of pumps required.

When the extra pumps arrive, they are sent on to the fires, not in time order, but in *priority* order — that is, if a fire is (*a*)

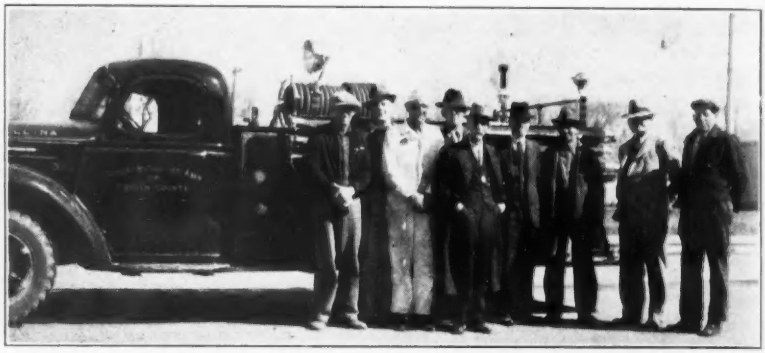
(*Continued on Page 16*)

"Best Protected County in the United States"

THE Farmers Mutual Insurance Association of O'Brien County, Iowa, has provided fire protection for all hitherto unprotected rural areas of O'Brien County (population 19,000). Secretary William Treimer, of the Association, reports that nine fire trucks have been provided and placed under the care of volunteer fire departments in the communities shown on the accompanying map. It will be noted that few areas in the county are more than five miles from the nearest rural fire truck. An agreement has been made with the different municipalities to man the trucks for all country runs. The departments are reimbursed at the rate of $1.00 per hour.

A resolution authorizing the Board of Directors of the insurance association to purchase nine 1½-ton trucks was passed unanimously by a membership meeting held on January 8, 1941. This action was brought about after several destructive farm fires resulting from lack of fire-fighting equipment. It is stated that under Iowa statutes municipal officials could not jeopardize town property by sending the only available fire equipment to rural fires, despite their desire to co-operate.

On March 7, 1941, after careful investigation, the Board of Directors authorized the Secretary and President to sign a contract for the purchase of nine fire trucks, each equipped with 30 feet of suction hose, 750 feet of 1½-inch hose, 150 feet of 1-inch hose, and auxiliary equipment needed for rural fire service. The hose streams may be supplied from the 400-gallon booster tanks carried on each truck or from hydrants, wells, and other water sources that may be available.



The picture shows the Board of Directors of the Farmers Mutual Insurance Association of O'Brien County standing beside the Association's No. 1 fire truck which is operated by the Paullina Fire Department.

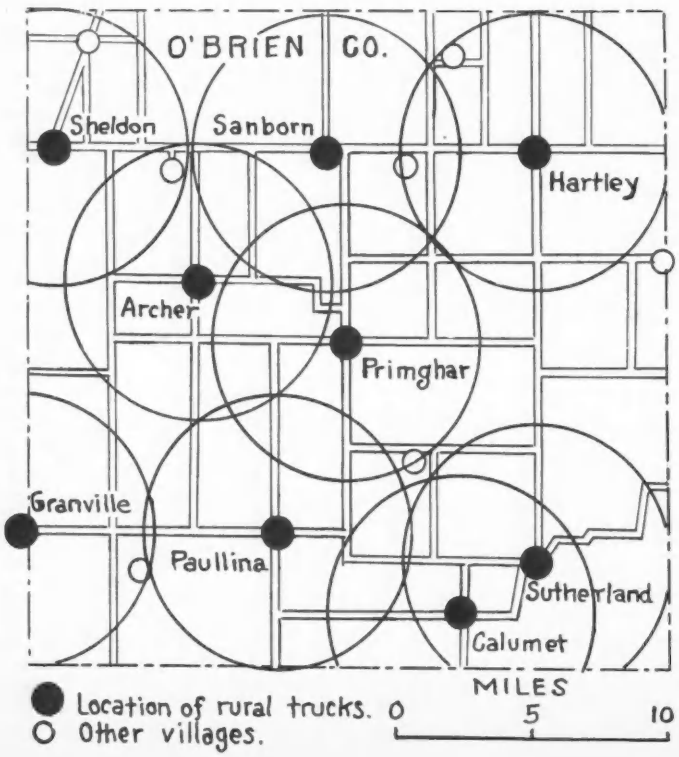
Most of the fire departments manning this rural apparatus already had pumpers for town service. By the addition of the nine rural trucks, O'Brien County has claimed to be "More completely and properly equipped for town and rural fire protection than any other county in the United States."

A careful record has been kept indicating that, by the extinguishment of farm fires alone, the nine insurance company trucks far more than paid for themselves during their first year of service. Secretary Treimer states that the experience of the company meets with the approval of practically one hundred per cent of the farmers of O'Brien County.

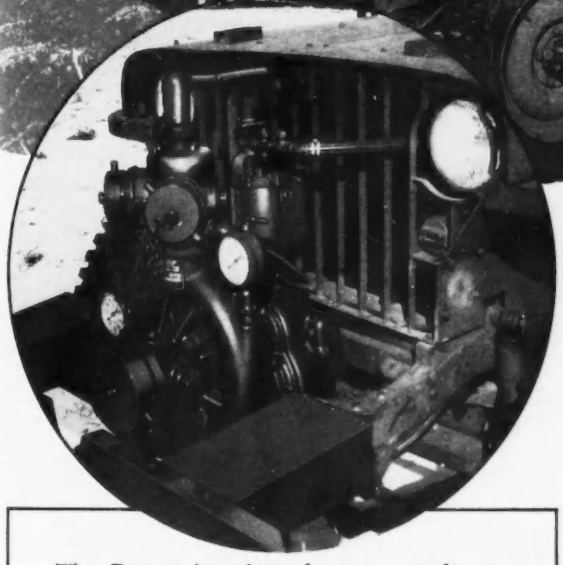
THE success of this experiment in providing complete protection for an entire county by means of rural fire trucks may point the way for a marked reduction in the nations $90,000,000 annual farm fire loss. As is well known, streams from 1½-inch hose can control most fires in dwellings and farm outbuildings. They can protect even the largest farm buildings against exposure fires. With a distribution of apparatus such as that in O'Brien County it would be possible, if necessary, to mobilize two or three rural trucks at almost any point within ten or fifteen minutes time. Rural firemen usually know how to make water go a lot further than their city brothers. The first arriving piece of apparatus can go to work with streams from the 400-gallon water tank on the apparatus. If no suction supply is available near the farm, the tank can be kept filled by water carried in pails or milk cans until the arrival of additional water tank apparatus.

Where several rural trucks are available at a fire it is possible to keep a constant water supply on hand by having one or more trucks carrying water for the machine that is supplying the actual fire streams.

Specifications for water tank apparatus for rural fire fighting have been prepared by the N.F.P.A. Committee on Farm Fire Protection and are published in the N.F.P.A. pamphlet "Volunteer Fire Departments" (25 cents a copy). Another N.F.P.A. standard helpful to persons planning rural fire protection is "Water Systems for Fire Protection on Farms" (10 cents a copy), prepared by the same committee.



NEW WEAPON FOR FIRE FIGHTERS!



BARTON-AMERICAN FRONT MOUNTED PUMP

CONVERTS JEEP INTO LOW-COST SPEEDY, POWERFUL, FOREST GRASS AND BRUSH

FIRE FIGHTER!

Several hundred Jeeps have already been released for civilian use. As others become available, this low-cost fire fighting combination will be the answer to the need for equipment that can go places and do things with grass, brush and forest fires that no conventional apparatus could ever do.

Actual war service has already proven that the four-wheel drive Jeep can make its own road through brush and tall grass, and packs plenty of power to pull an auxiliary water tank if necessary. The time-tested Barton-American centrifugal pump will stand the rough usage encountered in this type of fire fighting, and the outfit can pump either direct from its own tank or lift and pump water from streams or lakes.

The Barton-American front-mounted centrifugal fire pump has been time-tested for over 20 years. It is available in various sizes from 60 to 500 GPM for pressures up to 300 pounds. It can be completely installed on the Jeep or any other commercial chassis by any mechanic in a few hours' time.

The Front Mounted Pump is also Available for Standard Chassis.

AMERICAN-MARSH PUMPS, INC.

CENTRIFUGAL, TURBINE, STEAM, AND POWER PUMPS

BATTLE CREEK, MICHIGAN . . . . PUMPS AND PUMPS ONLY SINCE 1873

Distribution of OCD Equipment

by Colonel E. L. White, Chief

Equipment Office, Office of Civilian Defense

IN order to give you a clear picture of the rules and law under which the OCD has distributed fire-fighting equipment, it might be of interest to call attention to the legislation and orders on the subject. While the OCD was set up under Executive Order 8757 dated May 20, 1941, there was no provision for the procurement of any protective equipment until the next year. On January 27, 1942, Congress passed an authorization to appropriate $100,000,000 to buy the necessary supplies, and this authority was stated in Public Law 415 of the 77th Congress. The money was not appropriated, however, until February 21st under Public Law 463 of the 77th Congress, and then, the actual money was not made available until March 25th of the same year.

The actual operation of the program was not carried on so far as details are concerned by the Public Law but by the provisions of Executive Order 9088 which the President signed on March 6, 1942. This Executive Order provided for methods of development and procurement, interpreted the various operations which could and could not be performed and also specified the conditions of distribution of the equipment. In this order it was distinctly stated, and several times repeated that it was to be for "loan to duly constituted civil authorities of any state, territory, municipality or other subdivision. . . provided that it shall be a condition of all such loans that the civil authority to which loan is made shall give assurance to the Director that the property shall be adequately protected and maintained, that it shall not be used otherwise than for the protection of persons or property from bombing attacks, sabotage, or other war hazards, or for training or instruction incidental to such use."

As many know, it has been necessary for the Director in many cases to withhold permission for distribution of the fire-fighting equipment. In almost every case the reason for such an action was the fact that the war hazards were not sufficiently established and the importance of the locality to be protected did not seem to justify the loan of the property, although there often appears to have been discrimination between towns comparatively adjacent to each other.

Later in the program the mutual aid idea was developed whereby equipment was placed in communities which could not of themselves justify a direct allocation, but in all cases it was intended that such mutual aid allocations should be made for the indirect protection of prime targets and that the localities which received the material only did so because of the possible value of that material in protecting some other community. If you understand this difference you will appreciate the seeming inequalities or injustice in some cases. Let me repeat, the only basis upon which allocations of fire-fighting equipment were made was consideration of the value of such equipment in the protection of prime targets.

As to the means by which these prime targets were determined, the method was a dual one. In the first place, the Army provided us with a list of communities in which war plants and facilities were located and told us which ones it desired us to provide protection for. It did this by establishing priorities as a guide under which we could work. Additional considerations were recommendations from our Regional and State authorities which supplemented and supported the War Department recommendations.

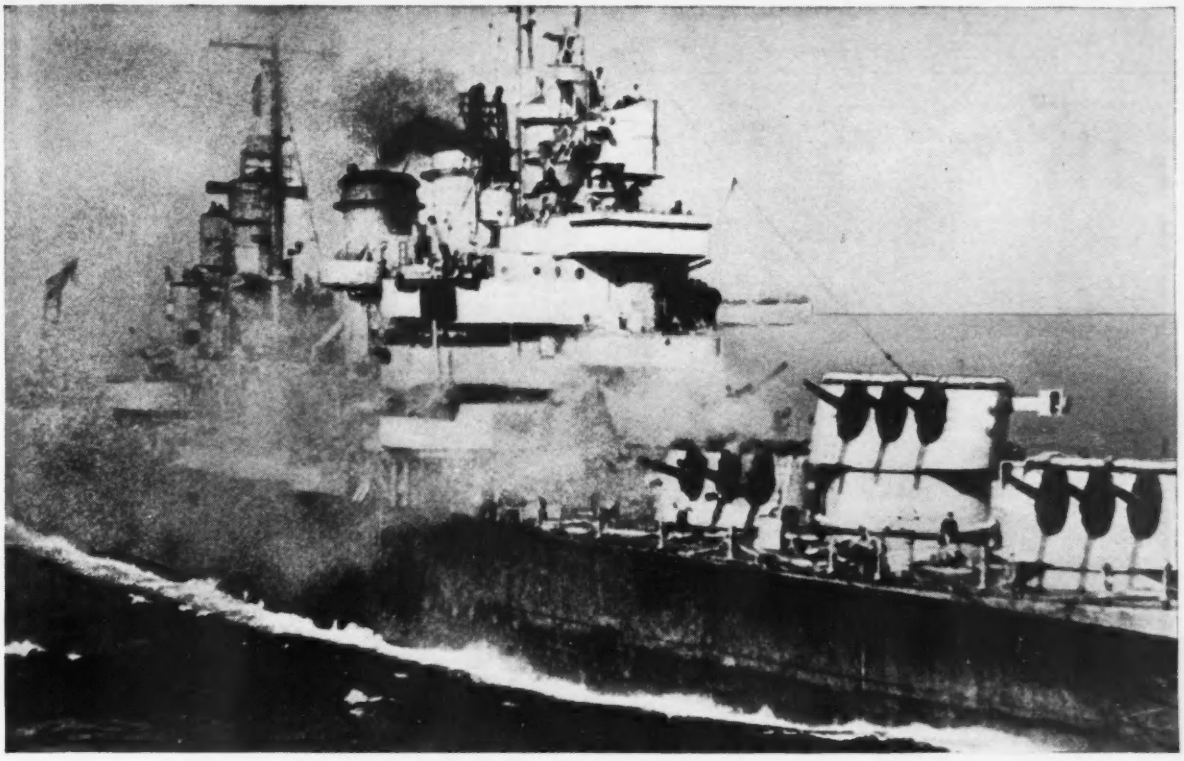
After consideration had been given to the question as to whether a community deserved protection or not, the question arose as to what the amount of such protection should be, and two formulae were developed to guide the quantitative allocations. The first of these formulae took into account the actual amount of regular fire-fighting equipment which was already available in the communities. After this had been determined an allocation was made of a quantity of OCD equipment on the basis of one OCD pumping unit for each existing regular pumping unit which was less than 15 years old, and two OCD pumping units for every existing pumping unit which was over 15 years old. In other words, the OCD practically doubled the number of pieces of fire pumping apparatus in those localities. The second formula was used wherever information was not available as to the existence of the regular apparatus. This was made on a population basis, taking into account the manner in which the other formula had worked out. This resulted in the allocation of from one to 17 units depending upon the size of the communities from 5,000 to 200,000. It was not necessary to estimate further than that because in cities over 200,000 the information as to the actual number of pieces of apparatus was always available.

Of course, as is known, the OCD equipment was issued in an assortment of three different types of 500-gallon pumpers — the trailer type, the skid, and the front mount type, all complete with accessories.

There has undoubtedly been a certain amount of inaccuracy in the allocations which have been made, but this in only natural when it is realized that more than 3,500 communities have been considered and in many cases the information at hand was not as complete as could have been desired. And perhaps in some cases the statements were slightly colored in order that the communities might obtain equipment to which they would not actually have been entitled. However, on the whole the formulae have worked out very well. Under the law the Director is em-

(*Continued on Page 16*)

An example of how the OCD pumping equipment may be utilized by a volunteer fire department is the above unit of the Brooklyn Community Volunteer Fire Co., Inc., of Brooklyn, Maryland. (Member N. F. P. A.) Chief Wm. G. Bauer writes: "Several months ago the OCD delivered to the Brooklyn Fire Department several of the 500 gallon pumping units. Among them was a skid mounted unit, the others being trailers. The skid job proved a problem which was solved very nicely by the purchase of a used one-ton G.M.C. truck. All the work from construction of the new body, installing the dual wheels, to the complete paint job including the lettering, was done in the department by the men. We completely overhauled the chassis, disposed of the old body and kept the cab. We changed the size of the tires to fit the dual wheels, cut a 275-gallon fuel oil tank in half for a booster tank which we mounted in the back of the cab inside of the new body. Bins were installed on each side, inside the body for hose compartments. We are carrying 400 feet of 2½-inch and 200 feet of 1½-inch hose in addition to the 140 gallons of water. The complete unit exclusive of the pumping unit cost us $750.00 and it is a swell job."



USS SAVANNAH on fire in action off Salerno. (This photo is from a newsreel.)

When Enemy Bombs START *FIRES*

National Foams STOP Them

Many dangerous fires on U. S. fighting ships have been quickly and effectively controlled with National Fire Foams. Thousands of lives have been spared, and millions of dollars, in ships and cargoes, saved.

Excerpt from Lowell Thomas Broadcast — Tuesday, November 2, 1943:

> ***"It was disclosed by the Navy today that one of our topnotch cruisers was damaged in the landings at Salerno—the Savannah. That warship sustained a direct hit from a German aerial bomb, which smashed a gun turret and set it on fire. . . . Last night at Movietone Newsreel, we worked on pictures of the Savannah, and these show the blast on the cruiser. You see the Savannah belching clouds of smoke—and looking like a mighty serious case. But there was heroic fire fighting and the blaze was put out. And today's Navy story tells us that within twenty minutes the damage was under control and the Savannah was once again firing salvos at Nazi positions on shore."***

National Fire Foams and Equipment have been adopted and are being extensively used by the U. S. Navy, by most oil refineries and large industrial plants.

IN FIRE DEPARTMENT SERVICE

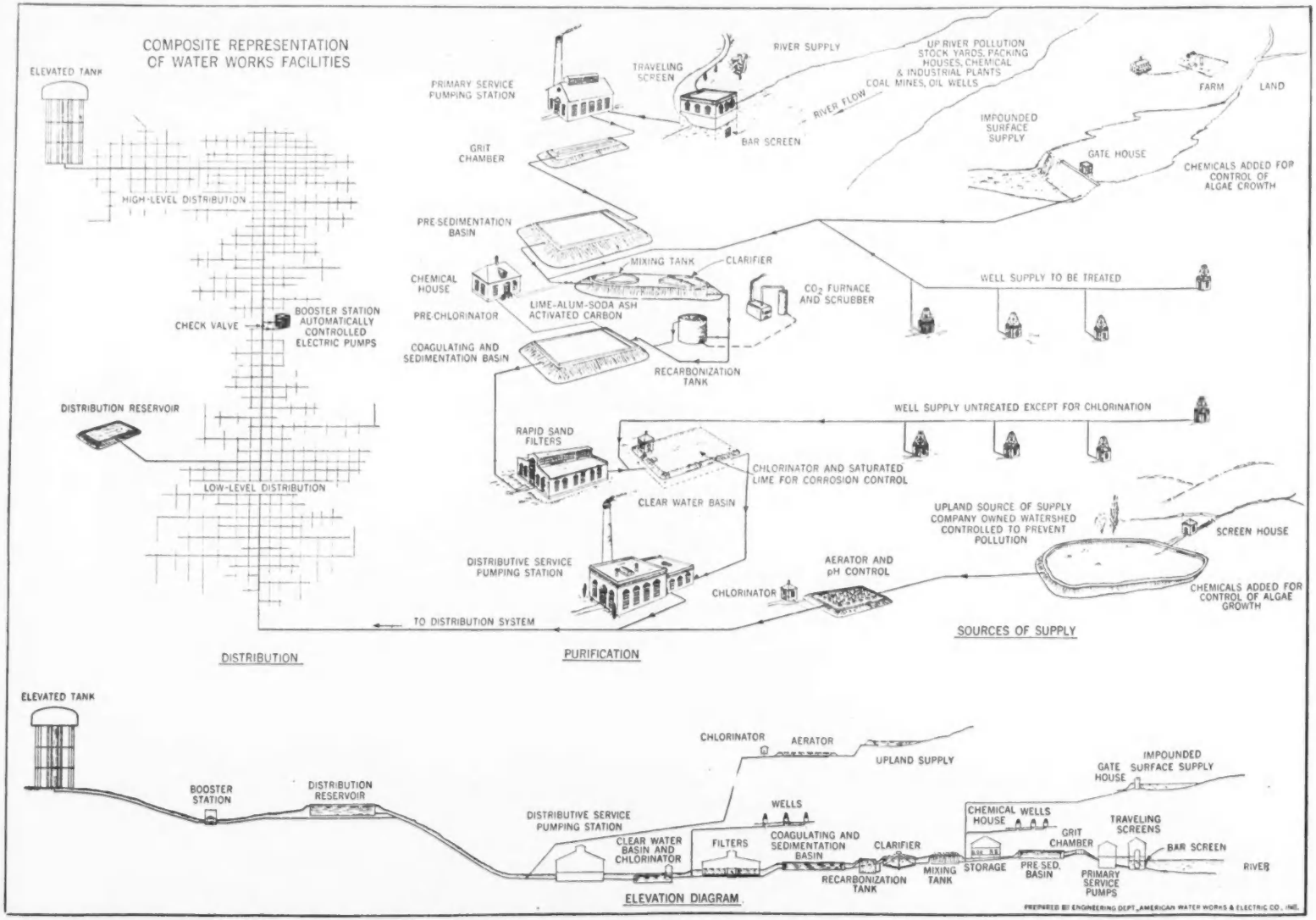
National Foam System has equipment especially designed for the use of Fire Departments to meet all types of fire fighting requirements. Complete engineering service available.

The experience of our engineering department is at your service.

NATIONAL FOAM SYSTEM, INC.

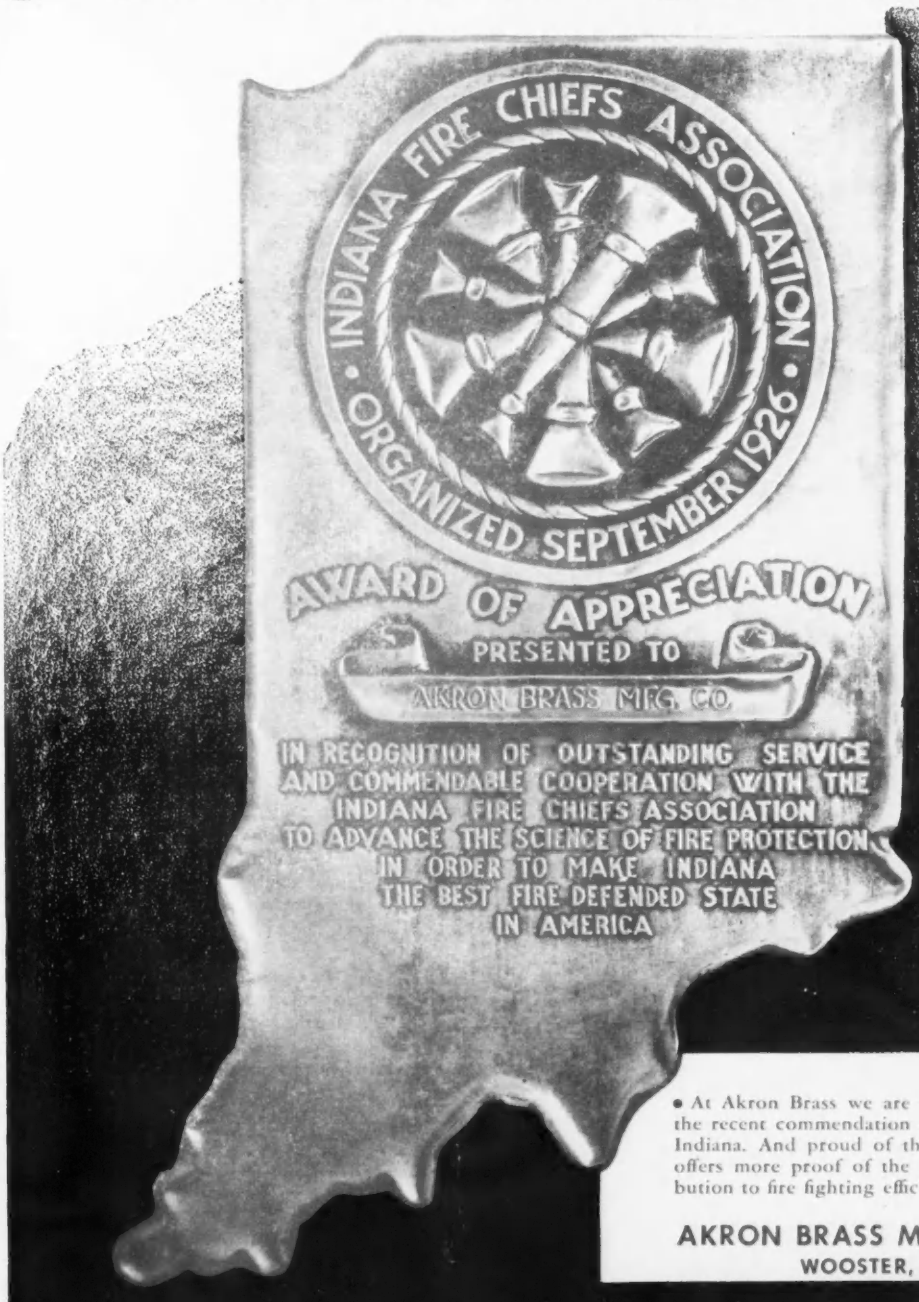
Specializing in Foam Fire Protection

16:32 Sansom St., Philadelphia, Pa.



This composite representation of water works facilities was developed by the Engineering Department, American Waterworks and Electric Company, 50 Broad Street, New York City. It is presented through the courtesy of that concern. It shows how water is obtained from various sources such as rivers and wells; how it is treated for purification; and then how it is distributed. Fire departments are principally concerned with the distribution system.

Award for SERVICE


INDIANA FIRE CHIEFS ASSOCIATION
ORGANIZED SEPTEMBER 1926
AWARD OF APPRECIATION
PRESENTED TO
AKRON BRASS MFG. CO.
IN RECOGNITION OF OUTSTANDING SERVICE
AND COMMENDABLE COOPERATION WITH THE
INDIANA FIRE CHIEFS ASSOCIATION
TO ADVANCE THE SCIENCE OF FIRE PROTECTION
IN ORDER TO MAKE INDIANA
THE BEST FIRE DEFENDED STATE
IN AMERICA

• At Akron Brass we are very appreciative of the recent commendation of the Fire Chiefs of Indiana. And proud of the award, too. For it offers more proof of the value of our contribution to fire fighting efficiency. • • •

AKRON BRASS MFG. CO., INC.
WOOSTER, OHIO

AKRON BRASS
FIRE FIGHTING EQUIPMENT

The Indian Fire Gun has been used by our department for a number of years in all fires that could be extinguished or controlled by a fire extinguisher and we have had excellent results. A large percentage of our fires are extinguished by the Indian Fire Pumps.

Excerpt from letter written by a Department of Public Safety.

INDIAN

Fire Pumps are your best buy $ for $

Yes, when you really get down to bed rock facts on what type of fire extinguisher gives you the most for your money — it's INDIAN FIRE PUMPS. They use nothing but clear water, which costs nothing and is obtainable anywhere. They are just as effective on *inside* as on *outside* fires. They are built so strongly that they give years of trouble free service. Rust proof tank is air-cooled preventing dampness seeping through against the back. An INDIAN FIRE PUMP is portable by handle or slung on the back.

Build up your supply of INDIAN FIRE PUMPS. Prepare for the big fire fighting job which lies ahead.

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SEND FOR CATALOG, PRICES AND FULL INFORMATION

Canadian Firemen in Britain

FOUR hundred Canadian firemen are serving overseas in the Corps of Canadian Fire Fighters for the United Kingdom. A total of 107 communities supplied the members of the Corps, which was organized during March 1942, upon request by the British Government for fire fighters to serve in target cities in the British Isles. Flight Lieutenant Huff, fire prevention officer of the Winnipeg Command, R.C.A.F. and former Brantford, Ontario, fire chief, became commanding officer.

Accepted recruits were brought to Ottawa, billeted in a fire hall and given a short course of training. Eight groups went overseas up to December 1942. Once in the United Kingdom, the groups went to a National Fire Service reinforcement center and then were sent to training schools for four weeks. Completing training, the men were posted in Canadian stations at Southampton, Portsmouth, Plymouth and Bristol. They live in small hotels and inns near the fire stations.

That the Canadian firemen have made a good showing in Britain is reflected in a report in FIRE magazine, official journal of the British Fire Service, reporting that a detachment of Canadian firemen serving at Bristol carried away the main trophy in a tournament held by Britain's 17th Fire Force serving the cities of Bristol (prewar population 402,000) and Bath (prewar population 68,000) and surrounding territory.

The drill consisted of driving a large trailer pump, drawn by a towing vehicle, to a 500 gallon water dam, unhitching the pump, connecting up, and roping two lengths of suction, laying two 100 foot lines, knocking down two targets, making up and returning to the starting line. The No. 3 Canadian detachment made the remarkable time of 111.8 seconds.

Members of the winning team were presented with ashtrays made from stone recovered from the Houses of Parliament after the blitz on London, with a silver plate in the base and a small shield suitably engraved.

New Text

THE British Home Office, Fire Service Department, London, has issued a "Manual of Firemenship, A Survey of the Science of Firefighting, Part 3". This text deals with hydraulic theory, hydrants and emergency water supplies, mobile water supplies and water relaying, and use of emergency water pipe lines. While the entire text is based upon British practice there is much that would be of interest to American fire fighters. Copies may be obtained for 75 cents from the British Ministry of Information, 30 Rockefeller Plaza, New York City.

MEMBERSHIP REPORT

LAST month 22 fire departments with 250 men were newly enrolled in the N.F.P.A. Volunteer Firemen's Section which now has a total of 1,036 departments with 18,151 firemen enrolled. Thus the number of member fire departments and fire brigades continues to grow. The new members are listed below:

Bethlehem-Alameda Shipyard, Inc., Alameda, Calif.
Bethlehem Steel Company, South San Francisco, Calif.
Thompsonville Fire District, Thompsonville, Conn.
Huntington Fire Company No. 3, Inc., Huntington Center, Shelton, Conn.
Lewistown Community Fire Department, Lewistown, Ill.
Malden Fire Department, Malden, Ill.
Dolton Volunteer Fire Department, Dolton, Ill.
Monroeville Fire Co., Monroeville, Ind.
Mitchell Fire Department, Mitchell, Ind.
Montrose Volunteer Fire Department, Montrose, Iowa
Kensington Volunteer Fire Department, Kensington, Md.
Bethlehem-Hingham Shipyard, Inc., Hingham, Mass.
Canby Volunteer Fire Department, Canby, Minn.
Berlin Fire Company No. 1, Berlin, N. J.
Post Engineer, Camp Shanks, N. Y.
Poningoe Hook & Ladder Co. No. 1, Rye, N. Y.
Newburgh Heights Fire Department, Newburgh Heights, Ohio
Checotah Fire Department, Checotah, Okla.
Garber Fire Department, Garber, Okla.
Minquas Fire Company, Downingtown, Pa.
Bristol Fire Department, Bristol, Va.
Troy Center Fire Department, Troy Center, Wis.

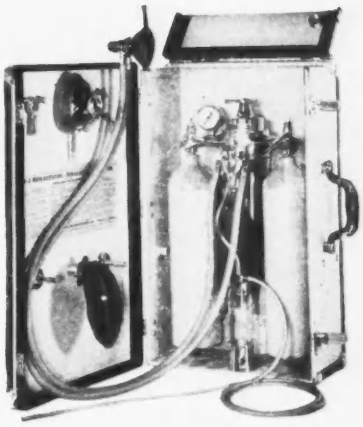
MEMBERSHIP PLAN

- Through the Volunteer Firemen's Section, fire companies may become N.F.P.A. members. Each member fire company is entitled to have VOLUNTEER FIREMEN magazine sent to the homes of ten firemen.
- As a member, the fire company receives at headquarters a set of all other regular N.F.P.A. publications. This includes the QUARTERLY MAGAZINE and monthly NEWS LETTER.
- Membership in the National Fire Protection Association costs ten dollars per year. If more than ten firemen want to receive the magazine, an additional one dollar should be sent for each additional fireman enrolled.

E & J RESUSCITATORS USED BY THE LEADERS

★

The outstanding Fire and Police Rescue Services, Industrials and Hospitals have selected these famous automatic breathing machines because they know from years of experience that they cannot afford to take chances with anything but the best when lives are at stake.



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18 YEARS OF KNOWING HOW

To Design and Manufacture
Automatic Resuscitators

Behind each E & J Resuscitator is a long record of dependable and successful performance which is the result of many years of specialized experience by the pioneers in mechanical artificial respiration. This experience coupled with sound engineering practice and precision workmanship accounts for there being so many E & J Resuscitators saving lives every day throughout the world.

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E & J MANUFACTURING CO.

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4448 W. Washington Chicago | **3032 W. 25th Ave. Denver** | **3900 Grandy Ave. Detroit**

Pioneers and Specialists in Mechanical Artificial Respiration

Big Fires of 1943

DURING 1943 there occurred in the United States and Canada a total of one hundred and five fires, each of which resulted in a loss of $250,000 or more. One hundred and three persons lost their lives in these fires. This information is based upon reports received by the N.F.P.A. Department of Fire Record and is not necessarily complete. Nine of these fires occurred in Canada. The 1943 record of 105 large loss fires represents an increase of twenty-five fires, or thirty-one per cent over the number reported in 1942, and it should be noted that the eighty fires reported in 1942 was sixty-seven per cent increase over 1941. The quadruplication of large fires during the past five years as shown below is a matter worthy of the utmost concern to a nation at war.

1939	28 fires
1940	38 fires
1941	48 fires
1942	80 fires
1943	105 fires

Fourteen fires during the year caused losses of a million dollars or more as follows:

Jan. 21. Colorado Springs, Colo. Army property $1,000,000.

Jan. 27. Marion, Va. Woodworking plant working on airplane parts, exposed church and dwellings. $1,250,000.

Feb. 23. Saginaw, Texas. Flour mill and elevator. $1,930,000.

Feb. 28. Oakland, Calif. Flour mill and warehouse. $2,098,000.

March 31. Cairo, Ill. Soy bean oil mill. $1,650,000.

May 20. Chicago, Ill. Bomber crashed into gas holder. $1,225,000.

Aug. 19. Kearny, N. J. Linoleum plant making camouflage. $2,000,000.

Sept. 24. New Haven, Conn. Fur storage warehouse. $3,000,000.

Oct. 2. Moorpark, Calif. Fruit and vegetable warehouse. $1,000,000.

Oct. 11. Near Sydney, N. S. Naval base. $1,000,000.

Nov. 6. Camp Borden, Ont. Army property. $2,000,000.

Nov. 6. Southern California. Forest and brush fires. $2,000,000.

Nov. 14. Calgro, Calif. Winery. $2,225,000.

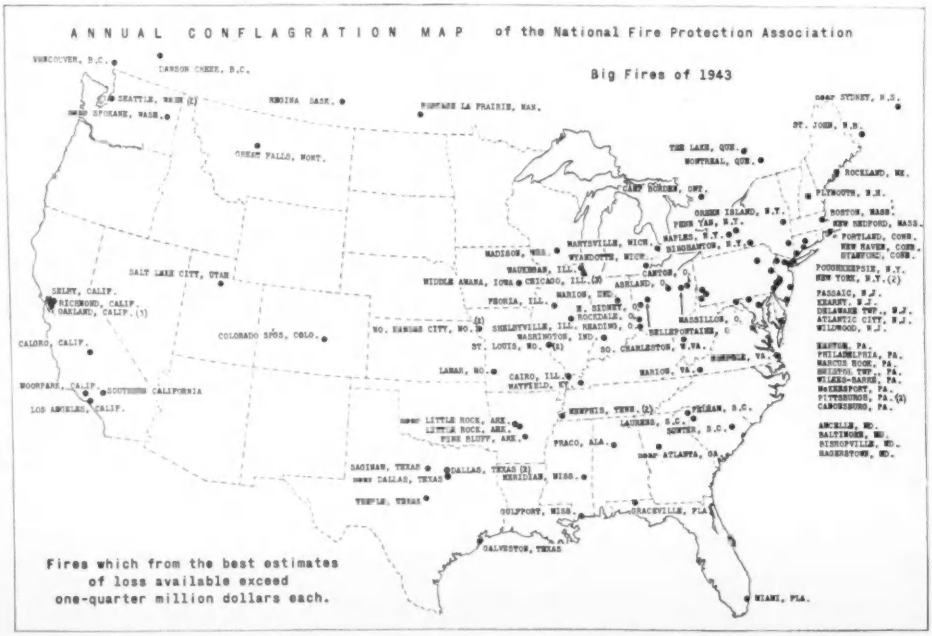
Dec. 25. Wildwood, N. J. Conflagration. $1,000,000.

THE following table shows the occupancies which were involved in the 105 fires:

Apartment house	1
Army and Navy property	9
Cannery	1
Chemical plants	5
Chicken hatchery	1
Coal mine	1
Conflagration	1
Cotton seed and soy bean oil mills	3
Department stores	2
Fertilizer plants	2
Flour and feed mills	3
Forest fire	1
Garage	1
Gasometers	2
Grain elevator	1
Group fires	9
Hotel	1
Laundry	1
Meat packer	1
Metal workers	11
Miscellaneous manufacturing	7
Multiple occupancies	7
Oil refinery	1
Ore refinery	1
Paper mill	1
Railroad property	2
Rubber workers	3
Sawmill	1
School	1
Shipyard	1
Textile worker	1
Theatre	1
Warehouses	16
Wineries	2
Woodworkers	2
Yacht yard	1

FOLLOWING is an analysis of the factors responsible for the large losses. In every fire several factors contributed to the rapid spread of the flames and the excessive loss.

	No. Times Contributing
STRUCTURAL FACTORS	
Inferior construction excessive areas, etc.	67
Lack of sufficient exposure protection	20
Unprotected vertical openings	22
OCCUPANCY FACTORS	
Highly flammable contents, excessive amounts of burnable stock	22
Flammable liquids and gases	22
Unsafe heating equipment	2
Contents of unusually high value	4
FIRE PROTECTION	
Lack of adequate private protection	79
Lack of fire doors or cut-offs	22
Fire doors blocked open or inoperative	4
Lack of adequate public fire protection	12
Sprinkler system shut off	4
Sprinkler piping obstructed	1
Gravity tank frozen	1
FIRE FIGHTING	
Fire difficult of access	15
Poor fire fighting	4
Fire department inadequately manned or equipped	8
Inexperience in fighting large fires	5
Fire department delayed	4
DELAYS IN GIVING ALARM	
Headway of fire when discovered	33
Efforts made to extinguish fire without giving alarm	6
Watchman became confused	3
WATER SUPPLIES	
Inadequate water supply	22
Shortage of hydrants	10
Lack of approaches to static water supply, such as river, pond, etc.	1
Failure of fire pump	1
WEATHER CONDITIONS	
Strong wind	6
Low humidity	1
Extreme cold	5
Explosions	17


ANNUAL CONFLAGRATION MAP of the National Fire Protection Association
Big Fires of 1943
Fires which from the best estimates of loss available exceed one-quarter million dollars each.

OF the 105 large loss fires in 1943, 42 or more than one-third of the fires occurred outside of cities of 10,000 or more population or outside of large military establishments having their own fire brigades. This indicates that volunteer fire departments and part-volunteer fire departments fought a large proportion of the larger fires of the past year. Also, in many of the big fires in the larger cities required the help of nearby volunteers.

The importance of fire protection in wartime makes it essential that every fire department get behind a drive to have fewer large-loss fires in 1944.

NEW FREE BOOK tells how to keep fire-fighting equipment in shape

When fire strikes at your plant — will your extinguishing equipment be *ready?* A clogged nozzle, a cylinder not fully charged — these and dozens of other results of negligence can make your fire-fighters useless when you need them most. Regular, systematic inspection is the only way to make sure your equipment's in fighting trim.

To help you set up a maintenance system in your organization, Walter Kidde & Company has prepared a booklet — "Inspection and Maintenance of Fire Extinguishers." It tells how to check whether you have the proper types and quantities of extinguishers; how to mark them for quick identification; how often the various types should be inspected; what parts to examine on each unit. It suggests simple forms for keeping records. This booklet is on the press now. Write for your free copy today.

WALTER KIDDE & COMPANY, INC., 249 MAIN STREET, BELLEVILLE, N. J.

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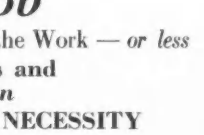
And over 125 Cities, Villages and Townships



THE CIRCUL-AIR CORP.
6339 EAST PALMER AVE. DETROIT 11, MICH.

SPECIFICATION GUIDE
for ordering
LIFE NETS!

1 DUAL SHOCK ABSORBERS, scientifically engineered with recoil mechanism similar to that used in modern artillery. Set firmly on the frame with shock absorber rods in firing position ready to instantly distribute the first shock of impact, permitting the 32 dual shock absorbers to absorb the balance of shock.

2 DOUBLE STRAPS, designed to add greater strength and safety. Pull sustained by four rivets at each point of contact, instead of only one as on old type net.

3 INTERNAL SPRING TYPE AUTOMATIC LOCKS, with ample space for firm hand grip on the sleeves. Simple and positive quick action when opening and closing.

4 HEAVY STEEL FRAME, that will sustain shock of impacts without distortion.

5 FABRIC BOTTOM. The character of the quality and texture of this material is such that it will resist heavy impacts and show only the minimum of sag.

6 MOULDED HAND RUBBER GRIPS, provide a firm grip and prevent friction burns.

7 RUBBER GUARDS on ends of shock absorber rods to prevent chafing.

8 SPRINGS scientifically designed and tested for proper resiliency and reaction.

USE THESE SPECIFICATIONS

ATLAS
SAFETY EQUIPMENT CO., INC.
26 Warren St.
New York 7, N. Y.

Boardwalk Wildwood,

ONE of the biggest conflagrations of the winter fought in a large measure by volunteer firemen, occurred at Wildwood, N. J. early on Christmas morning. While, according to Fire Chief J. E. Eldridge, the exact loss has not been determined, newspapers place the damage at approximately $1,000.000.

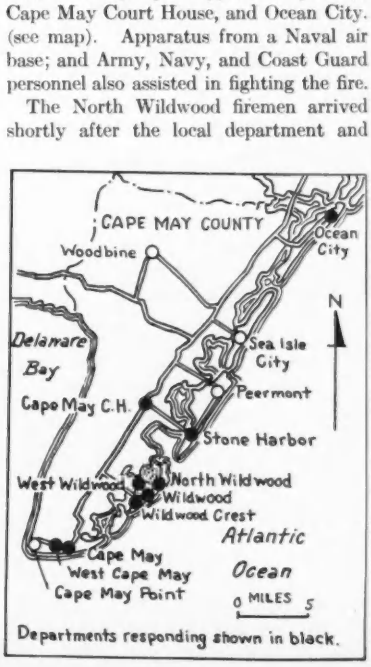
Wildwood is located on an island in the Atlantic Ocean, it is in Cape May County at the extreme southern tip of New Jersey, on the peninsular between Delaware Bay and the Atlantic Ocean.

Two men lost their lives in this fire and four others were injured. One of those lost was Lieutenant Joseph Walto, a veteran of the Pine Avenue Volunteer Fire Company, who died of a heart attack. The other was the night watchman whose body was found in the ruins at the Ocean Pier where the fire started.

As is quite evident from the front cover picture of VOLUNTEER FIREMEN, a strong wind fanned the flames to terrific intensity. The thermometer was down to 20 degrees F. The flames swept rapidly through a number of structures on both sides of the waterfront boardwalk destroying a large portion of two city blocks.

The Wildwood Fire Department (a part-paid and part-volunteer organization) received a telephone alarm from neighbors at 1:46 A.M. From the start it was evident that a major fire was underway and help was called promptly from North Wildwood, Wildwood Crest, West Wildwood, Stone Harbor, Cape May, West Cape May, Cape May Court House, and Ocean City. (see map). Apparatus from a Naval air base; and Army, Navy, and Coast Guard personnel also assisted in fighting the fire.

The North Wildwood firemen arrived shortly after the local department and



Departments responding shown in black.

Conflagration
New Jersey

Chief Eldridge took steps to surround the fire and make a stop in the smallest possible area. However, it was two hours before the spread of the fire was checked and not until 9 A.M. could the fire fighters leave the job.

From the Ocean Pier the wind had carried the fire to nine stores on the ocean side of the Boardwalk. The flames jumped the Boardwalk and destroyed the Ocean Pier Baths, the Nixon Theatre, the Ocean Pier Hotel, the Surf Side Hotel (a 60 room structure), two apartment houses, several dwellings and a total of twenty-five stores.

The cause of the fire is not known. It apparently started in the watchman's room which was heated by a gas heater. As the watchman lost his life the cause has not been determined.

●

Suggestion to Speed Telephone Alarms

FIRE alarm dispatcher Thomas Gerity of Cleveland, Ohio, makes the suggestion that the dial of each telephone instrument carry the appropriate emergency numbers for the Fire and Police Departments in addition to the usual larger number of the individual telephone. Illustrated below is the way emergency numbers would appear on a phone dial.

It is well known that telephoned alarms have a much greater chance for error than alarms sent over a municipal fire alarm system. This is not because the telephone company is not interested in handling fire calls, but because telephones are not primarily designed as emergency signaling systems, as are municipal fire alarm systems meeting N.F.P.A. standards.

If the correct emergency numbers appeared on each telephone, persons would tend to become familiar with these numbers in advance. There would be less likelihood of calls going astray due to use of the wrong number or the wrong exchange by an excited person.

How emergency numbers would appear on telephone dial.

MIDWESTERN
CANVAS OR
RUBBER TYPE
Firemen's Protective
CLOTHING

What is best . . . rubber or canvas clothing? It is a matter of preference and Midwestern makes them both. Each garment has the extra features, the rugged construction for which Midwestern garments are noted wherever men fight fires. Please order as far in advance as possible.

MIDWESTERN
Combination Suit
IN CANVAS OR RUBBER TYPE

We offer you a real special combination suit of Midwestern Rubberized Coat and Bunker Pants with detachable wool linings. Flexible elastic inner sleeve for wrist. Keeps out water, cold and sparks. All Midwestern coats are so equipped.

Write for literature.

MIDWESTERN SAFETY COAT
A LIFE SAVER
No. 801

Men wearing Midwestern striped coats can be seen far more easily — in fog — smoke — dust — mist and in darkness. Fewer men lost in debris after a cave-in. Fewer men knocked off ledges or ladder by hose stream — or run down by traffic. Send for complete description of this fine life saver coat.

MIDWESTERN
PROTECTIVE
CLOTHING
MIDWESTERN MANUFACTURING CO.
MACKINAW, ILLINOIS

Write for literature, price lists and material samples.

BETTER LIFE SAVING

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Now more than ever, your department needs a resuscitator that is dependable and effective in all emergencies. Our record in fire departments, industrial plants and the armed forces explains why today we are the largest builders of automatic breathing equipment in the world.

WRITE FOR LITERATURE OR A DEMONSTRATION

J. H. EMERSON CO.
24 Cottage Park Ave.,
Cambridge, Mass.
Representatives in Principal Cities

OCD Equipment

(Continued from Page 10)

powered to modify any distribution by taking away material or equipment from communities which evidently do not need or cannot use it and to ship such material elsewhere. In many communities lack of storage space or inability to obtain automobiles or trucks for mounting the material has brought about an actual excess.

I am afraid that there are going to be some communities which will not particularly enjoy this redistribution, but I hope that we can make them understand that the conditions have changed and that there is now an urgent need for this material for the use of our Armed Forces. Under the circumstances, I am sure that no community will be unpatriotic enough to object to giving up some of this loaned equipment for that use.

OF course, the procurement and distribution of this fire equipment was only the material part of the OCD fire protection program. Far more important than the actual physical material was the program of enrollment and training of the volunteer auxiliary firemen, and while guides for organization and standards were developed by the OCD and distributed to the field, the actual value of these enrollees came from the training which they received from the professional fire officials in the various places where they lived. I don't think that people appreciate the tremendous value of the nearly 500,000 men who have gone through this training. The knowledge and the discipline which they have obtained is not only of value in the present emergency but is undoubtedly going to persist into the after-war periods.

There are many communities where the regular fire departments have been so depleted that it has been necessary to close some of the houses and combine the crews of the apparatus which would have been stationed there. If it had not been for the presence of the auxiliary firemen, five protection in these communities would have been far more difficult than it is.

After the war undoubtedly there are going to be many communities which will not see their way clear to appropriate sufficient funds to replace the obsolete apparatus which will then exist in the regular departments. The fact that you have a large portion of the civilian population trained to understand and appreciate the value of fire-fighting equipment, and the need for it, this will undoubtedly make it easier for you to get favorable consideration for the expenditure of money from your city councils.

You are all curious to know what the post-war plans are concerning the OCD fire-fighting apparatus. I am sorry that I cannot give you any official opinion. The OCD is a war agency and while the war is on it is bending every effort to meet present emergencies first. Although there has been considerable discussion about the post-war place of civilian defense in the American scheme, no plans have been officially adopted. Expressing my own personal opinion, I think that we can consider things somewhat along this line — firefighting equipment now in the field could, of course, be withdrawn by the Government, but such a withdrawal would entail a tremendous expense not only for the actual transportation but for the provision of storage facilities, and if the material was withdrawn it certainly would be an economic waste to allow it to lie idle and deteriorate. For these reasons it is my opinion that some method will be worked out whereby a great deal of this equipment will be left in the field. Whether it will be offered for purchase by communities or whether some other method will be adopted, I do not know. Certainly the fire prevention consciousness which has been developed during the war will find valid use for it in some way. I need only mention the possibility of expansion of the rural fire protection program to show that there is plenty of opportunity to place the OCD apparatus where it will be of value.

There have been some remarks about the danger of leaving this apparatus in the field for fear that it might affect the business of the regular fire-apparatus manufacturers. I don't think that you have to worry about it. As is known, for the last couple of years all manufacturers have been working at top speed to provide equipment for the Armed Forces. This material is not going to be thrown back on the market immediately because it is going to be some time before the Army and Navy installations are abandoned. Until that time they will need protection. Furthermore, the OCD material is so constructed that it is not going to last as long as regular equipment. Its service life will probably not be so long as to extend after the period which will be necessary for the apparatus manufacturers to catch up with the replacement needs for the regular departments. I think that the apparatus manufacturers are going to be so busy after the war that they need not fear any unfavorable results from OCD distribution.

Britain's National Fire Service

(Continued from Page 7)

known to be of great fire risk, such as a hospital, a warehouse of war goods or a food store; (*b*) or if it is known to be for an urgent "make-up" call, that is, if a fire being attended is badly in need of further pumps or (*c*) the fire is known to be at a key point, such as a factory.

Under the National Fire Service Scheme, therefore, a fire pump can be sent to any part of England, Scotland or Wales, knowing that when it arrives at its destination, its equipment will be the same as the other brigades engaged, the crew will work with the local crews using the same methods.

YOU MUST HAVE 800 LBS.

for High-Pressure Fog Fire Fighting!

FIRES KNOCKED DOWN *10 to 35 times faster with FMC High-Pressure Fog Fire Fighters.*

(Right, above) THE PUMP *that has revolutionized fire-fighting technique.* **(Right, below) FOG FIRE GUN** *graduates from straight power stream to close-up fog. For use only with 600 lbs. pressure or more.*

Only FMC Packs Needed Punch to Hold 600-lbs. Nozzle Pressure

The heart of the FMC Fog Fire Fighter is its exclusive high-pressure pump. It easily develops 600-lb. nozzle pressure, and breaks up water so fine that one gallon, properly used, can give you the fire-quenching efficiency of 35 low-pressure gallons.

If *pump* pressure is not high enough to start with, it is not possible to get the 600-700 lb. nozzle pressure that is needed to deliver the superfine FMC fog that puts out fires so fast with no water damage and no water shortage.

Proved on hundreds of fires all over the country, FMC High-Pressure Fog Fire Fighters are not to be confused with any other method. There is nothing comparable to them. Write for full details to John Bean Mfg. Co., Lansing, Michigan, or Bean-Cutler Division, Food Machinery Corporation, San Jose, Calif.

FMC FOG FIRE FIGHTER TRUCK. *One of several low-cost units. Carries own water and equipment.*

FMC *Original* **HIGH-PRESSURE FOG FIRE FIGHTER**

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BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 50 YEARS

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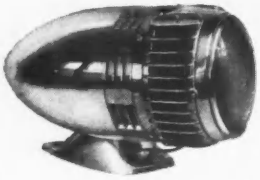

You will get quick attention and fast action from the powerful, piercing signal of FEDERAL Sirens. They clear the way for blocks ahead—giving maximum warning to pedestrians, automobiles, and trucks—and maximum protection to your vehicle. They are designed and constructed to give long life and unfailing service.

Made in a large variety of types and styles, FEDERAL Sirens are available with or without flashing, or oscillating, red light.

The FEDERAL FURY EXHAUST WHISTLE is available as a warning signal in those communities which still prohibit the use of sirens under wartime conditions. Two new models of oscillating lights are also available for additional protection by a visual warning.

WRITE FOR BULLETINS!

FEDERAL ELECTRIC CO., Inc.
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MANUFACTURERS' ANNOUNCEMENTS

Typical "shots" from new Kidde film.

"FLAME FACTS," a 20-minute, 16 mm. sound motion picture in Kodachrome, has been issued by Walter Kidde & Company, makers of fire-extinguishing apparatus, as part of their educational campaign on the nature and control of fire. The film demonstrates vividly how and why fire burns, the different kinds of fires and how they should be tackled, and the correct use of each type of extinguisher. Common errors in first aid fire fighting are shown, and tips on fire prevention given the visual illustration which is best remembered. The picture was planned primarily for use by plant executives, foremen, fire-fighting units and educational groups. Those interested may apply to Walter Kidde & Company, Inc., 140 Cedar Street, New York 6, N. Y., and the film will be routed to them without charge, in order of application.

ATLAS SAFETY EQUIPMENT COMPANY, INC., of 26 Warren St., New York City, has just issued a four-page leaflet describing the exclusive features of the Atlas Life Net and offering suggested specifications for the purchase of life nets. A copy of the leaflet will be sent on request to the Atlas Company.

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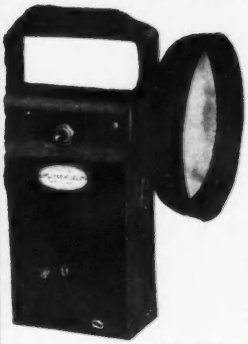

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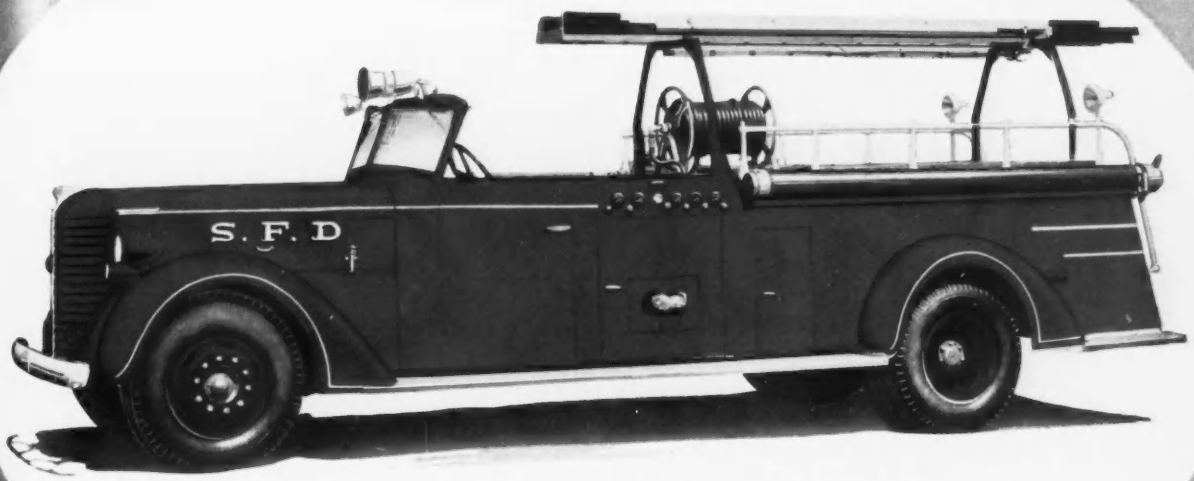

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gives carbon dioxide a shot in the arm...

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